

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Singh, et al.

Serial No.: 10/688, 797

Confirmation No.: 2637

Filed: October 17, 2003

For: Silicon-Containing Layer
Deposition with Silicon
Compounds

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Group Art Unit: 160

Examiner: Unknown

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

CERTIFICATE OF MAILING 37 CFR 1.8	
I hereby certify that this correspondence is being deposited on February 10, 2004 with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450.	
<u>2/10/04</u> Date	<u>[Signature]</u> Signature

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The Applicants, and the Attorney who signs below on the basis of the information supplied by the inventor and the information in his file, submit herewith patents, publications, or other information of which they are aware, which may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR § 1.56.

While the information submitted in this Information Disclosure Statement may be material pursuant to 37 CFR § 1.56, it is not intended to constitute an admission that any patent, publication, or other information referred to therein is prior art for this invention unless specifically designated as such.

In accordance with 37 CFR § 1.97, this Information Disclosure Statement is not to be construed as a representation that a search has been made or that no other possibly material information as defined under 37 CFR § 1.56(a) exists.

The patents and/or publications submitted herewith are set forth on the attached Form PTO-1449.

If the sum of \$180.00 is due under 37 CFR § 1.17(p) pursuant to § 1.97, the Commissioner is hereby authorized to charge this fee, and any other fee necessary

to make this submission timely, to the Deposit Account No. 20-0782/AMAT/7729/KMT.

Respectfully submitted,



Keith M. Tackett
Registration No. 32,008
MOSER, PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicant(s)

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PTO/SB/08a (08-03)

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1

of

9

Application Number

10/688,797

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October 17, 2003

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U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1	US-6632279B1	10/14/2003	Ritala, et al.	
	A2	US-6630413B2	10/07/2003	Todd	
	A3	US-6559520B2	05/06/2003	Matsuki, et al.	
	A4	US-6544900B2	04/08/2003	Raaijmakers, et al.	
	A5	US-6534395B2	03/18/2003	Werkhoven, et al.	
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		Number-Kind Code ² (if known)				
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	B5	WO 02/065516 A2	08/22/2002	WIPO		

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Sheet 2

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	A2	US-6287965B1	09/11/2001	Kang, et al.	
	A3	US-6284686B1	09/04/2001	Marlor	
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	A2	US-5503875	04/02/1996	Imai, et al.	
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	A2	US-20030082300A1	05/01/2003	Todd, et al.	
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		Number-Kind Code ² (if known)				
	B1	WO 98/20524 A1	05/14/1998	WIPO		
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	B2	JP07300649 A	11/14/1995	JAPANESE		
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	A18	US-			

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Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Number-Kind Code ² (if known)				
	B1	JP5047665	02/26/1993	JAPANESE		
	B2	JP3286522	12/17/1991	JAPANESE		
	B3	JP2172895	07/04/1990	JAPANESE		
	B4	JP1270593	10/27/1989	JAPANESE		
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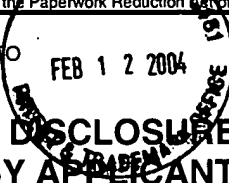
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PTO/SB/08a (08-03)

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Substitute for form 1449A/PTO <div style="text-align: center;">  </div> <h2 style="text-align: center; margin: 10px 0;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</h2> <p style="text-align: center; margin: 5px 0;">(Use as many sheets as necessary)</p>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>10/688,797</td> </tr> <tr> <td>Filing Date</td> <td>October 17, 2003</td> </tr> <tr> <td>First Named Inventor</td> <td>Singh, et al.</td> </tr> <tr> <td>Group Art Unit</td> <td>160</td> </tr> <tr> <td>Examiner Name</td> <td>Unknown</td> </tr> <tr> <td>Attorney Docket Number</td> <td>AMAT/7729/TCG/EPI/LE</td> </tr> <tr> <td>Submission Date</td> <td>February 10, 2004</td> </tr> </table>		Application Number	10/688,797	Filing Date	October 17, 2003	First Named Inventor	Singh, et al.	Group Art Unit	160	Examiner Name	Unknown	Attorney Docket Number	AMAT/7729/TCG/EPI/LE	Submission Date	February 10, 2004
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Sheet	7	of	9														

U.S. PATENT DOCUMENTS

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	A6	US-			
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	B1	EP 1 150 345 A2	10/31/2001	EUROPEAN		
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	B5					

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 8

of 9

Application Number

10/688,797

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Singh, et al.

Group Art Unit

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Examiner Name

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AMAT/7729/TCG/EPI/LE

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NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
	C1	Argarwal, <i>et al.</i> "Challenges in Integrating the High-K Gate Dielectric Film to the Conventional CMOS Process Flow," Mat. Sec. Soc. Sump. Proc. Vol. 670 (2001)	
	C2	Bedair, "Atomic Layer Epitaxy Deposition Processes," J. Vac. Sci. Technol. B., Vol. 12, No. 1, Jan/Feb 1994	
	C3	Choi, <i>et al.</i> "The Effect of Annealing on Resistivity of Low Pressure Chemical Vapor Deposited Titanium Diboride," J. Appl. Phys. 69(11), 1 June 1991	
	C4	Choi, <i>et al.</i> "Stability of TiB ₂ as a Diffusion Barrier on Silicon," J. Electrochem. Soc., Vol. 138, No. 10, October 1991	
	C5	Derbyshire, "Applications of Integrated Processing," Solid State Technology, December 1994	
	C6	Elers, <i>et al.</i> "NbCl ₅ as a Precursor in Atomic Layer Epitaxy," Applied Surface Science 82/83 (1994) 468-474	
	C7	George, <i>et al.</i> , "Surface Chemistry for Atomic Layer Growth," J. Phys. Chem. 1996, 100, 13121-13131	
	C8	Hwang, <i>et al.</i> "Nanometer-Size α -PbO ₂ -type TiO ₂ in Garnet: A Thermobarometer for Ultrahigh-Pressure Metamorphism," Science Vo. 288 (14 Apr 2000)	
	C9	Jeong, <i>et al.</i> "Plasma-assisted Atomic Layer Growth of High-Quality Aluminum Oxide Thin Films," Jpn. J. Appl. Phys. 1, Regul. Pap. Short Notes, Vol. 40, No. 1, Jan 2001	
	C10	Jeong, <i>et al.</i> "Growth and Characterization of Aluminum Oxide Al ₂ O ₃ Thin Films by Plasma-assisted Atomic Layer Controlled Deposition," J. Korean Inst. Met. Mater., Vol. 38, No. 10, Oct. 2000	
	C11	Imai, <i>et al.</i> Jpn. J. Appl. Phys., 30 (1991) 3646.	

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	C12	Lee, <i>et al.</i> "Cyclic Technique for the Enhancement of Highly Oriented Diamond Film Growth," Thin Solid Films 303 (1997) 264-269	
	C13	Lubben, <i>et al.</i> "Mechanisms and kinetics of Si atomic-layer epitaxy on Si(001)2X1 from Si ₂ H ₆ ," J. Vac. Sci. Technol. A 9 (6), Nov/Dec 1991, 3003-3011.	
	C14	Min, <i>et al.</i> "Metal-organic Atomic-layer Deposition of Titanium-silicon-nitride Films," Applied Physics Letters, Vol. 75, No. 11 (11 Sep 1999)	
	C15	Min, <i>et al.</i> "Chemical Vapor Deposition of Ti-Si-N Films with Alternating Source Supply," Mat. Res. Soc. Symp. Proc. Vol. 564 (1999)	
	C16	Paranjpe, <i>et al.</i> "Atomic Layer Deposition of AlO _x for Thin Film Head Gap Applications," J. Electrochem. Soc., Vol. 148, No. 9, Sep. 2001	
	C17	Ritala, <i>et al.</i> "Atomic Layer Deposition of Oxide Thin Films with Metal Alkoxides as Oxygen Sources," Science Vol. 288 14 Apr 2000	
	C18	Suda, <i>et al.</i> "Adsorption and thermal dissociation of disilane (Si ₂ H ₆) on Si(100)2X1," J. Vac. Sci. Technol. A8 (1), Jan/Feb 1990, 61-67.	

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